

REMARKS

In the Office Action, the Examiner noted that claims 1-25 are pending in the application and that claims 1-25 are rejected. By this response, claims 1, 16 and 22 have been amended. Thus, claims 1-25 are pending in the application.

Examiner Interview

Applicant wishes to thank the Examiner for the interview conducted on December 2, 2004. During such interview, Applicant presented a proposed amendment to independent claim 1 that substantially corresponds with the amendment made herein. The electrical circuit sensor is now recited as being "electrically non-invasive". The Examiner indicated that, upon filing a formal amendment, the Examiner would reconsider the prior Office Action and cited references in view of the new limitations.

Rejections Under 35 U.S.C., §102

Claims 1, 2, 7, 11, 14-16, 20-22, 24 and 25 are rejected under 35 U.S.C. §102(b) as being anticipated by *Lund* (U.S. Patent 5,277,219). Independent claims 1, 16 and 22 have been amended to recite that the electrical sensor is "electrically non-invasive" (claim 1); the electrical power is "provided in electrically non-invasive relationship" (claim 16); and the step of detecting operation of an electrical circuit is provided "without forming a direct electrical connection with the circuit" (claim 22).

Accordingly, the rejection under 35 U.S.C. §102(b) is now believed to be overcome, and claims 1, 2, 7, 11, 14-16, 20-22, 24 and 25 are now believed to be allowable.

Withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C., §103

Claims 3-6, 17-19, and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lund*, in view of *Massaro, et al.* (U.S. Patent No. 5,205,318). Claims 10 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lund*, in view of *Kaonohi* (U.S. Patent No. 5,735,291). Claims 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Lund*, in view of *Helt* (U.S. Patent No. 4,687,948). Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Lund*, in view of *O'Neill, et al.* (U.S. Patent No. 4,960,080). Independent claims 1, 16 and 22 have been amended such that the electrical circuit sensor is electrically non-invasive (see claim 1). The obviousness rejection is now believed to be overcome.

With respect to claims 3-6, 17-19 and 23, the Examiner asserts that *Lund* teaches a hot water recirculation system that includes an electrical circuit sensor comprising a switch (60). The Examiner acknowledges that the electrical circuit sensor lacks being configured to sense current flow from a light circuit. The Examiner then asserts that *Massaro, et al.* teaches this feature, except using an electrical circuit in hot water recirculation systems to manually turn on a hot water pump by a user turning on a light switch. The Examiner then asserts that it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the system of *Lund* to include configuring the electrical circuit sensor to sense current flow from a light switch to initiate operation of the pump, therein utilizing the available light switch present in most household switches and thus eliminating the need for an electrical switch. However, *Massaro, et al.* is a two-pipe system that is configured to retrofit an existing building. As shown in Figure 5 of *Massaro, et al.*, multiple thermal sensors are used. If a lead goes bad, then the pump will run all the time. Secondly, *Lund* does not teach an electrical circuit sensor (60). At column 4, lines 7-11, *Lund* teaches a control system that acts as a relay switch when an optional manual switch 60 is electrically connected to control system 50 by way of wire 62.

Accordingly, the rejection with respect to claims 3-6, 17-19, and 23 under 35 U.S.C. §103(a) as being obvious and unpatentable over *Lund* in view of *Massaro, et al.* is now believed to be overcome by the amendment to the claims, as well as the shortcomings noted above.

With respect to claims 10 and 13, the Examiner has cited *Lund* in view of *Kaonohi*. The Examiner asserts that *Kaonohi* teaches the use of a check valve (38) in a fluid circuit (30) to allow one-way fluid flow through a fluid duct (column 3, lines 52-55). The Examiner then asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of *Lund* to include a check valve in the fluid circuit to ensure one-way fluid flow through the fluid circuit. However, the amended claims 1, 16, and 22 enable monitoring of an electrical circuit that is non-invasive. The techniques of *Kaonohi* require the connection to an existing switch or power supply which may not

comply with certain local and state electrical codes. National and International electrical codes are known to require bathroom and washing machine devices be wired on a "home run" circuit, which means that nothing else can be attached to the circuit that will directly draw power from the circuit.

Claims 8 and 9 stand rejected under 35 U.S.C. §103(a) as being obvious and unpatentable over *Lund* in view of *Helt*. The Examiner asserts that *Helt* teaches the use of a solid-state doughnut-type relay (11) used to open and close an electrical circuit, the circuit being used to control the operation of a heating/cooling system (5) and a hot water heater (7) (column 2, lines 9-26). The Examiner asserts it would have been obvious to modify the system of *Lund* to include the solid-state doughnut-type relay as the type of relay to switch electrical current outlet to the pump.

Applicant respectfully disagrees with the Examiner's assertion with respect to claims 8 and 9. In order to prove a case of *prima facie* obviousness, the Examiner must provide (1) one or more references (2) that were available to the inventor and (3) that teach (4) a suggestion to combine or modify the references, (5) the combination or modification of which would appear to be sufficient to have made the claimed invention obvious to one of ordinary skill in the art. Here the Examiner lacks a suggestion to combine or modify the references. The Examiner is impermissibly using hindsight in order to piece together the invention. It is well known that an invention is not obvious where "old" or "well-known" elements solve different problems. In *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 41 (Fed. Cir. 1984), the Federal Circuit first

noted that the fact that the invention was merely a combination of old elements did not negate patentability.

The '315 patent specifically stated that it disclosed and claimed a combination of features previously used in two separate devices. That fact alone is not fatal to patentability. The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination...That question must here be answered in the negative.

(*Id.*, 221 USPQ at 488 (citing *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983))).

In the *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.* case, the Federal Circuit held that, because there was no suggestion for combining the prior art, the claimed invention would not have been obvious. Specifically, the Court held that the prior art references dealt with soft, easily compactable, particulate material. In contrast, the claimed invention related to the crushing of rigid material. The Federal Circuit noted:

Nothing in the references alone or together suggests the claims invention as a solution to the problem of crushing rigidly massive scrap. There was nothing whatever of record, therefore, to support the district court's statement that the claimed machine possessed "another known procedure operating in a known manner to produce a known result."...

That the claimed invention may employ known principles does not itself establish that the invention would have been obvious.

(*Id.* at 488-89.)

Accordingly, *Lindermann* indicates that an invention that is a combination of old elements will be non-obvious if the old elements typically deal with different problems.

Here, *Lund* deals with recirculation of hot water into a cold water pipe using a two-pipe system, which tends to waste water. *Lund* also teaches an optional implementation of manual switches that are electrically connected to a control system by way of wire 62 causing the control system to turn on a pump 46. In an alternative implementation, *Lund* uses a flow detector 64 which is flow invasive and which can be subjected to the build-up of calcium deposits therein which can undesirably affect performance. *Lund* does not teach an electrical circuit sensor (60) as asserted by the Examiner. Secondly, *Helt* teaches a dual mode controller that is used to select a particular mode such that in one switch position, a heating/cooling system is given priority regardless of the operating status of a hot water heater, and in another position, the operating load is given priority. Essentially, *Helt* teaches a dual mode controller that is configured to allow only one of two electrical loads to operate at any given time (see column 1, lines 46-47). Hence, *Helt* deals with a different problem than the problem being addressed by *Lund*. Hence, *Lund* and *Helt* each deal with different problems. Accordingly, the present invention is not obvious where "old" or "well-known" elements solve different problems. The present invention is directed to a system that recirculates hot water while minimizing wasted water and while eliminating the need to be electrically invasive when detecting operation of an electrical circuit within an electrical circuit sensor. *Helt* merely solves a different problem: limiting power usage by multiple devices at a given time.

The Examiner has also rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over *Lund* in view of *O'Neill, et al.* The Examiner cites *O'Neill* as teaching the provision of shut-off valves (2, 24) on either side of a pump (10) for the purpose of freely isolating the pump so that it can be removed and replaced (column 4, lines 54-65). The Examiner then asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of *Lund* to include a pair of shut-off valves on either side of a pump in order to allow the pump to be removed and replaced from the fluid circuit. Applicant respectfully disagrees with the Examiner. *O'Neill* teaches a water injection system for a diesel engine that is found in class 123, subclass 254. *Lund* teaches a hot water recirculation system that uses two pipes with hot water being recirculated into cold water pipes, but wherein the system wastes water. *Lund* is classified in class 137, subclass 337. As previously recited, *Lund* solves a water recirculation problem or water delivery system in a building or a house, whereas *O'Neill* solves a water injection problem injecting water into a diesel engine. Applicant asserts the Examiner has not provided a suggestion to combine or modify the references because the old or well-known elements from *Lund* and *O'Neill* solve different problems. Furthermore, the amendments to independent claims 1, 16 and 22 further distinguish the present claims from the prior art of record.

Accordingly, the obviousness rejections under 35 U.S.C. §103 of claims 3, 6, 8-10, 12-13, 17-19, and 23 are now believed to be overcome. Accordingly, withdrawal of these rejections is respectfully requested.

Application Serial No. 10/783,436
Amendment dated 2/1/05
in Response to Office Action dated 10/01/04

CONCLUSION


For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview before issuance of any such subsequent action.

Respectfully submitted,

Dated: _____

2/1/05

By: _____


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